

WHAT IS CLAIMED IS:

1. A sheet feeding apparatus for containing sheets in an inside thereof, comprising:

a first cover and a second cover provided in an apparatus main body so as to be openable and closable; and

a detecting sensor for detecting an opening or a closing of the first cover;

wherein said detecting sensor does not detect the closing of the first cover when the first cover is closed in a state in which the second cover is opened and detects the closing of the first cover when the first cover is closed in a state in which the second cover is closed.

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2. A sheet feeding apparatus according to claim 1,

wherein the detecting sensor is provided movably, and moves in a non-detection position where the closing of the first cover is not detected, according to an opening of the second cover, and moves to a detection position where the closing of the first cover can be detected, according to the closing of the second cover.

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3. A sheet feeding apparatus according to claim 1, further comprising a moving member which moves

following an opening or closing operation of one of
the first cover and the second cover and turns ON or
OFF the detecting sensor to cause the detecting
sensor to detect the opening or the closing of the
5 first cover,

wherein the detecting sensor is fixedly
provided in the apparatus main body, and

the moving member is movable to a first
position where the detecting sensor detects the
10 closing of the first cover and a second position
where the detecting sensor does not detect the
closing of the first cover, and in the case in which
the second cover is closed, the moving member moves
from the first position to the second position
15 according to the opening of the first cover and moves
from the second position to the first position
according to the closing of the first cover.

4. A sheet feeding apparatus according to claim
20 3, wherein when the second cover is opened after the
first cover is opened, the moving member moves to a
third position where the detecting sensor does not
detect the closing of the first cover from the second
position, when the second cover is closed, the moving
25 member moves from the third position to the second
position and, even if the first cover is closed when
the moving member is in the third position, the

moving member does not move to the first position.

5. A sheet feeding apparatus according to claim 3, further comprising:

5 sheet supporting means which supports sheets and is capable of being raised and lowered;

a drive motor which generates a drive force for raising the sheet supporting means; and

10 a gear train for transmitting the drive force of the drive motor to the sheet supporting means,

wherein gears of the gear train are disengaged according to a movement of the moving member from the first position to the second position to lower the sheet supporting means.

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6. A sheet feeding apparatus according to claim 4, further comprising:

sheet supporting means which supports sheets and is capable of being raised and lowered;

20 a drive motor which generates a drive force for raising the sheet supporting means; and

a gear train for transmitting the drive force of the drive motor to the sheet supporting means,

25 wherein it is possible to disengage gears of the gear train following the movement of the moving member to lower the sheet supporting means,

when the moving member is in the first position,

the gears of the gear train engage with each other,
and

when the moving member is in the second
position and the third position, the gears of the
5 gear train are disengaged and the sheet supporting
means falls.

7. A sheet feeding apparatus according to claim
1, further comprising an indication member which is
10 provided movably in the first cover and indicates
that the first cover is closed earlier than the
second cover,

wherein, when the first cover is closed in a
state in which the second cover is not closed, the
15 indication member moves to a position for indicating
that the first cover is closed earlier than the
second cover.

8. A sheet feeding apparatus according to claim
20 1, further comprising:

sheet supporting means which supports sheets
contained in the inside of the apparatus main body;

sheet feeding means which feeds the sheets
supported by the sheet supporting means; and

25 elevating means which raises and lowers the
sheet supporting means,

wherein, when the detecting sensor detects the

closing of the first cover, the sheet supporting means maintains a height for allowing sheet feeding, and

when the detecting sensor detects that the
5 first cover is opened, the sheet supporting means is lowered to a lowermost part.

9. A sheet feeding apparatus according to claim 1, further comprising regulating means which is
10 capable of regulating an opening operation of the second cover in a state in which the second cover is closed,

wherein the regulating means operates in association with the opening or the closing operation
15 of the first cover,

in a state in which the first cover is closed, the regulating member regulates the opening operation of the second cover, and

in a state in which the first cover is opened,
20 the regulating means does not regulate the opening or the closing operation of the second cover.

10. A sheet feeding apparatus according to claim 1, further comprising:

25 sheet supporting means which supports sheets and is capable of being raised and lowered;

a drive motor which generates a drive force for

raising the sheet supporting means; and

a gear train for transmitting the drive force
of the drive motor to the sheet supporting means,

wherein the sheet supporting means falls due to
5 its own weight as gears of the gear train are
disengaged according to an opening operation of the
first cover, and

even if the first cover is closed in a state in
which the second cover is opened, a state in which
10 the gears of the gear train are disengaged by the
opening operation is maintained.

11. A sheet feeding apparatus for containing
sheets in the inside thereof, comprising:

15 a first cover and a second cover which are
provided in an apparatus main body so as to be
openable and closable;

a holding member which is pivotable with
respect to the apparatus main body and is moved by an
20 opening of a closing operation of the second cover;
and

a detecting sensor which is held by the holding
member,

wherein, when the second cover is closed, the
25 holding member is moved to a position where the
closing of the first cover can be detected by the
detecting sensor, and

when the second cover is opened, the holding member is moved to a position where the closing of the first cover is not detected by the detecting sensor.

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12. A sheet feeding apparatus for containing sheets in the inside thereof, comprising:

a first cover and a second cover which are which are provided in an apparatus main body so as to
10 be openable and closable;

a moving member which moves following an opening or a closing operation of one of the first cover and the second cover; and

a detecting sensor which is provided in the
15 apparatus main body and turned ON or OFF by the moving member,

wherein, when the second cover is closed, the moving member is moved to a position where the closing of the first cover can be detected by the
20 detecting sensor, and

when the second cover is opened, the moving member is moved to a position where the closing of the first cover is not detected by the detecting sensor.

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13. A sheet feeding apparatus according to claim 12, further comprising:

sheet supporting means which supports sheets
and is capable of being raised and lowered;

a drive motor which generates a drive force for
raising the sheet supporting means; and

5 a gear train for transmitting the drive force
of the drive motor to the sheet supporting means,

wherein it is possible to disengage gears of
the gear train following movement of the moving
member to lower the sheet supporting means,

10 the moving member is movable to a first
position where the detecting sensor detects the
closing of the first cover and a second position
where the detecting sensor does not detect the
closing of the first cover and, in a state in which
15 the second cover is closed, the moving member moves
from the first position to the second position
following the opening of the first cover and moves
from the second position to the first position
following the closing of the first cover,

20 when the second cover is opened after the first
cover is opened, the moving member moves to a third
position where the detecting sensor does not detect
the closing of the first cover from the second
position, when the second cover is closed, the moving
25 member moves from the third position to the second
position and, even if the first cover is closed when
the moving member is in the third position, the

moving member does not move to the first position,
when the moving member is in the first position,
the gears of the gear train engage with each other,
and

5 when the moving member is in the second
position and the third position, the gears of the
gear train are disengaged and the sheet supporting
means falls.

10 14. An image forming apparatus comprising:
a sheet feeding apparatus for containing sheets
in the inside thereof;

a first cover and a second cover which are
provided in the sheet feeding apparatus so as to be
15 openable and closable;

a detecting sensor for detecting the opening
and closing of the first cover; and

image forming means for forming an image on a
sheet fed from the sheet feeding apparatus,

20 wherein the detecting sensor does not detect
the closing of the first cover when the first cover
is closed in a state in which the second cover is
opened and detects the closing of the first cover
when the first cover is closed in a state in which
25 the second cover is closed.